CLAIMS

1. A plated-polyester article comprising a polyester article (A) and a plating layer (B) formed on the surface of the article, wherein

(1) the polyester article (A) is irradiated with ionizing radiation to crosslink a polyester resin,

(2) the arithmetic mean roughness Ra of the surface of the plating layer (B) is at most 1 μm, and

(3) adhesion strength between the polyester article (A) and the plating layer (B) is at least 2 MPa.

2. The plated-polyester article according to claim 1, wherein the polyester article (A) has reflow resistance that the rates of changes in dimensions as measured under conditions that it is passed through a zone preset to 260°C in a reflow oven in 60 seconds is at most 1% in both longitudinal and crosswise directions.

3. The plated-polyester article according to claim 1, wherein the polyester article (A) is an article obtained by melt-molding a resin composition with an inorganic filler having an average particle diameter of 1 to 10 μm dispersed in a proportion of 5 to 20 vol.% in a polyester resin crosslinkable by irradiation with ionizing radiation, and has been irradiated with ionizing radiation to crosslink the polyester resin.

4. The plated-polyester article according to claim 3, wherein the inorganic filler is at least one inorganic filler selected from the group consisting of calcium pyrophosphate, crushed silica and spherical silica.

5. The plated-polyester article according to claim 3, wherein the polyester resin crosslinkable by irradiation with ionizing radiation is a polyester resin selected from the group consisting of i) a polyester resin composition obtained by incorporating a polyfunctional monomer into a polyester resin, ii) a modified polyester resin obtained by reacting a polyester resin with a polyfunctional organic compound to introduce a polymerizable functional group, iii) a modified polyester resin obtained by copolymerizing an unsaturated diol or unsaturated dicarboxylic acid in a polymerization step of a polyester resin to introduce a carbon-carbon double bond in its main chain, and iv) a polyester resin composition obtained by incorporating a polyfunctional monomer in the modified polyester resin with the polymerizable functional group introduced therein or the modified polyester resin with the carbon-carbon double bond introduced in the main chain.

6. The plated-polyester article according to claim 5, wherein the polyester resin is at least one polyester resin selected from the group consisting of polybutylene terephthalate, polyethylene terephthalate, polybutylene

naphthalate, polyethylene naphthalate, polycyclohexylene terephthalate, polycyclohexylene terephthalate·polyethylene terephthalate copolymers, polycyclohexylene dimethylterephthalate·isophthalate copolymers and polybutylene succinate.

7. The plated-polyester article according to claim 3, wherein the polyester resin crosslinkable by irradiation with ionizing radiation further contains a flame retardant.

8. The plated-polyester article according to claim 7, wherein the flame retardant is a bromine flame retardant.

9. The plated-polyester article according to claim 7, which satisfies the standard value V-0 in the UL-94 test.

10. The plated-polyester article according to claim 1, wherein the plating layer (B) is an electroless copper plating layer or an electroless copper plating layer and a copper electroplating layer formed thereon.

11. A production process of a plated-polyester article with a plating layer (B) formed on the surface of a polyester article (A), which comprises

(I) Step 1 of melt-molding a resin composition obtained by dispersing an inorganic filler having an average particle diameter of 1 to 10 μm in a proportion of

5 to 20 vol.% in a polyester resin, which can be crosslinked by irradiation with ionizing radiation, into a polyester article (A) having a desired shape,

(II) Step 2 of forming a plating layer (B) on the surface of the polyester article (A), and

(III) Step 3 of irradiating the polyester article (A) with the ionizing radiation before or after Step 2 to crosslink the polyester resin.

12. The production process according to claim 11, wherein the inorganic filler is at least one inorganic filler selected from the group consisting of calcium pyrophosphate, crushed silica and spherical silica.

13. The production process according to claim 11, wherein the polyester resin crosslinkable by irradiation with ionizing radiation is a polyester resin selected from the group consisting of i) a polyester resin composition obtained by incorporating a polyfunctional monomer into a polyester resin, ii) a modified polyester resin obtained by reacting a polyester resin with a polyfunctional organic compound to introduce a polymerizable functional group, iii) a modified polyester resin obtained by copolymerizing an unsaturated diol or unsaturated dicarboxylic acid in a polymerization step of a polyester resin to introduce a carbon-carbon double bond in its main chain, and iv) a polyester resin composition obtained by incorporating a

polyfunctional monomer in the modified polyester resin with the polymerizable functional group introduced therein or the modified polyester resin with the carbon-carbon double bond introduced in the main chain.

14. The production process according to claim 13, wherein the polyester resin is at least one polyester resin selected from the group consisting of polybutylene terephthalate, polyethylene terephthalate, polybutylene naphthalate, polyethylene naphthalate, polycyclohexylene terephthalate, polycyclohexylene terephthalate·polyethylene terephthalate copolymers, polycyclohexylene dimethylterephthalate·isophthalate copolymers and polybutylene succinate.

15. The production process according to claim 11, wherein the polyester resin crosslinkable by irradiation with ionizing radiation further contains a flame retardant.

16. The production process according to claim 15, wherein the flame retardant is a bromine flame retardant.

17. The production process according to claim 11, wherein the plating layer (B) is formed by conducting an electroless copper plating or an electroless copper plating and a copper electroplating in this order in Step 2.

18. The production process according to claim 11, wherein the polyester article (A) is irradiated with the ionizing radiation in an exposure dose of 50 to 500 kGy in Step 3 to crosslink the polyester resin.

19. The production process according to claim 11, wherein the plating layer (B) is formed on the surface of the polyester article (A) in Step 2, and the polyester article (A) is then irradiated with the ionizing radiation in Step 3 to crosslink the polyester resin.

20. The production process according to claim 11, which provides a plated-polyester article having a plating layer that the arithmetic mean roughness Ra of the surface of the plating layer (B) is at most 1 μm, and adhesion strength between the polyester article (A) and the plating layer (B) is at least 2 MPa.